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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/661,629	09/13/2000	Prakash Easwaran	TI-31194/TXN-0001	7657

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EXAMINER

PHAM, TUAN

ART UNIT	PAPER NUMBER
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2643

DATE MAILED: 06/04/2004

9

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/661,629

Applicant(s)

EASWARAN ET AL.

Examiner

TUAN A PHAM

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 April 2004.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,8-11,13,14 and 16-18 is/are rejected.
- 7) ☒ Claim(s) 2-7,12 and 15 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

2. Claims 1, 8, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anne et al. (U.S. Patent No.: 6,603,808, hereinafter, "Anne") in view of Wilber (U.S. Patent No.: 6,324,558), and further in view of Vette (U.S. Patent No.: 4,216,424).

Regarding claim 1, Anne teaches a device for accurately generating a plurality of samples (see figure 2, CODEC 216, col.4, ln.50-60) representing data encoded according to a digital subscriber line (DSL) specification, the data being encoded in a DSL signal and being received on a telephone line, the telephone line being shared by

other devices used for home networking (see figure 2, POTS 200, col.5, ln.42-50, col.8, ln.48-55), the device comprising:

a filter coupled to the telephone line (see figure 2, filters 204, col.8, ln.48-64), the filter receiving an input signal on the telephone line and attenuating signal components corresponding to the home networking to generate a filtered output (see figure 2, POTS 200, col.8, ln.48-64),

a first amplifier amplifying the filtered output to generate an amplified signal (see figure 2, amplifier 208, col.8, ln.48-64), and

an analog to digital converter (ADC) sampling the amplified signal to generate the plurality of samples (see figure 2, ADC 216, col.8, ln.48-64, col.4, ln.50-60).

It should be noticed that Anne fails to clearly teach the high pass filter including a resistor in series with an input capacitance. However, Wilber teaches such features (see figure 4, resistor 420, capacitor 411, col.14, ln.19-28) for a purpose of determining the high pass cut-off frequency.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the use of the high pass filter including a resistor in series with an input capacitance, as taught by Wilber, into view of Anne in order to prevent the interference between the POTS and DSL devices.

Anne and Wilber, in combination, fails to clearly teach the resistor has a resistance substantially more than the internal resistance of the input capacitance. However, Vette teaches such features (see figure 1, block 14, block 14, col.1, ln.13-37, col.4, ln.8-39)(i.e., the high internal resistance of capacitor will cause the capacitor

failures which due to leaky or shorted. Therefore, one good capacitor should have a very small or zero internal resistance.) for a purpose of prevent the current leakage and open circuit.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the use of the resistor has a resistance substantially more than the internal resistance of the input capacitance, as taught by Vette, into view of Anne and Wilber in order to improve the failure of capacitor.

Regarding claim 8, Anne further teaches the device wherein the filter is implemented as an analog filter (see figure 2, filter 204, col.8, ln.48-64)(i.e., the filter 240 is connected to the POTS to receive the analog signals, then the filter 204 should be a analog filter.).

Regarding claim 11, Anne further teaches the device comprises a modem or a customer premises equipment (CPE) (see col.8, ln.48-50).

3. Claims 13-14, and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leung et al. (U.S. Patent No.: 6,542,540, hereinafter, "Leung") in view of Wilber (U.S. Patent No.: 6,324,558), and further in view of Vette (U.S. Patent No.: 4,216,424).

Regarding claim 13, Leung teaches a filter for processing a signal received on a telephone line (see figure 3, HPF 68, LPF 72), the telephone line being shared by a customer premise equipment (CPE) operating according to a digital subscriber line

(DSL) standard, the telephone line being shared by other devices used for home networking (see figure 1, ADSL modem 26, PC 18, col.2, ln.1-2), the filter comprising:

a high pass filter filtering any DSL transmission echo received on the telephone line, the high pass filter further filtering any voice communications also received on the telephone line (see figure 2, HPF 68, col.2, ln.11-35),

an amplifier amplifying the output of the high pass filter (see figure 2, PGA 70, col.2, ln.11-35), and

a low pass filter attenuating the signal components corresponding to the home networking to a level less than a desired noise floor (see figure 2, LPF 72, col.2, ln.11-35).

It should be noticed that Leung fails to clearly teach the high pass filter including a resistor in series with an input capacitance. However, Wilber teaches such features (see figure 4, resistor 420, capacitor 411, col.14, ln.19-28) for a purpose of determining the high pass cut-off frequency.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the use of the high pass filter including a resistor in series with an input capacitance, as taught by Wilber, into view of Leung in order to prevent the interference between the POTS and DSL devices.

Leung and Wilber, in combination, fails to clearly teach the resistor has a resistance substantially more than the internal resistance of the input capacitance. However, Vette teaches such features (see figure 1, block 14, block 14, col.1, ln.13-37, col.4, ln.8-39)(i.e., the high internal resistance of capacitor will cause the capacitor

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failures which due to leaky or shorted. Therefore, one good capacitor should have a very small or zero internal resistance.) for a purpose of prevent the current leakage and open circuit.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the use of the resistor has a resistance substantially more than the internal resistance of the input capacitance, as taught by Vette, into view of Leung and Wilber in order to improve the failure of capacitor.

Regarding claim 14, Leung further teaches the high pass filter further attenuates high frequency components including the signal components corresponding to the home networking, wherein the attenuations of the high frequency components enables the amplifier to be implemented with a higher gain (see col.2, ln.28-45). It is obvious the high pass filter is passing the high frequency and the amplifier is amplifying the signals.

Regarding claim 16, Wilber further teach the first resistor causes the attenuations of the high frequency components (see figure 3, resistor 339, col.13, ln.1-15).

Regarding claim 17, Wilber further teaches the filter further comprising a second resistor in series with another stage contained in the high pass filter (see figure 3, resistor 345, col.13, ln.1-15).

Regarding claim 18, Wilber further teaches the filter wherein the high pass filter, the amplifier and the low pass filter are implemented in a monolithic integrated circuit (see col.12, ln.5-25).

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4. Claims 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anne et al. (U.S. Patent No.: 6,603,808, hereinafter, "Anne") in view of Wilber (U.S. Patent No.: 6,324,558), and further in view of Vette (U.S. Patent No.: 4,216,424), as applied to claim 1 above and further in view of Nye et al. (U.S. Patent No. 6,144,659, hereinafter, "Nye").

Regarding claims 9-10, Anne, Wilber, and Vette, in combination, fails to clearly teach the analog filter is implemented using active and passive components. However, Nye teaches such features (see col.2, ln.60-65) for a purpose of supporting a low voltage.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the use of the analog filter is implemented using active and passive components, as taught by Nye, into view of Anne, Wilber, and Vette in order to save the power and reduce the amount of heat in the filters.

Allowable Subject Matter

5. Claims 2-7, 12, and 15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

6. Applicant's arguments with respect to claims 1-18 have been considered but are moot in view of the new ground(s) of rejection.

Applicants traverse the rejection by mainly arguing that the cited reference (Anne et al. U.S. Patent No.: 6,603,808) fails to teach the high pass filter including a first resistor in series with an input capacitance, wherein the first resistor has a resistance substantially more than the internal resistance of the input capacitance, as now amended. However, the newly found references (Wilber, U.S. Patent No.: 6,324,558, and Vette, U.S. Patent No.: 4,216,424), from the same field endeavor, in combination, Wilber and Vette teach the high pass filter including a first resistor in series with an input capacitance, wherein the first resistor has a resistance substantially more than the internal resistance of the input capacitance, which will prevent the interference between the POTS and ADSL device. Therefore, it is believed that the limitations of claims 1, 8-11, 13-14, and 16-18, as now amended, they are met by the combination of Anne, Wilber, and Vette.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. In order to expedite the prosecution of this application, the applicants are also requested to consider the following references. Although Sheno et al. (U.S. Patent No. 6,507,606), Mukherjee (U.S. Patent No. 6,226,322), Bremner (U.S. Patent No. 6,204,716), and Lee (U.S. Patent No. 4,607,375) are not applied into this

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Office Action; they are also called to Applicants attention. They may be used in future Office Action(s). These references are also concerned for supporting the system and method for long subscriber loops and analog receiver for digital subscriber line communication system.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for response to this final action is set to expire **THREE MONTHS** from the date of this action. In the event a first response is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event will the statutory period for response expire later than **SIX MONTHS** from the date of this final action.

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8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Tuan A. Pham** whose telephone number is (703) 305-4987. The examiner can normally be reached on Monday through Friday, 8:00 AM-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Curtis Kuntz can be reached on (703) 305-4708 and

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CURTIS KUNTZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

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May 20, 2004

Examiner

Tuan Pham